

Target Price Change

11 March 2025

# BUY

**56%** ↑ **side**

Target price: US\$25.00

Prior TP: US\$23.00

HSAI US

Price: US\$16.01

TP basis: P/E

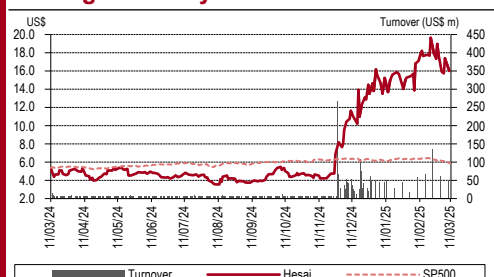
Sector rating: **NEUTRAL**

## Forecast Revisions (%)

Year ended 31 Dec	25E	26E	27E
Revenue	(0.8)	8.5	0
Core EPS	108.4	51.5	0

Source: BOCI Research estimates

## Trading Summary



(%)	YTD	1M	3M	12M
Absolute	15.8	(6.3)	40.4	198.1
Relative to SP500	21.4	1.3	52.2	171.8

Shares outstanding (m)	127
Free float (%)	43
Market cap. (US\$ m)	2,041
3M avg. daily turnover (US\$ m)	19
Net debt/equity (%) (2025E)	NM
Major shareholder (%)	
Mr. LI Yifan	8
Mr. SUN Kai	8
Mr. XIANG Shaoqing	8

Source: Company data, FactSet, BOCI Research

Prices as of 11 March 2025

# Hesai Group

*In-line 4Q24 results; Upbeat 2025 guidance for shipment and profitability*

Driven by another quarterly high LiDAR shipments of 222k units, Hesai's total revenue rose by 33.4% QoQ to RMB702m in 4Q24, and registered its first quarterly GAAP net profit of RMB147m, both in line with prior guidance. For 2025, the company provided an upbeat LiDAR shipment guidance of 1.2m-1.5m units, driven by promising ADAS LiDAR orders from two existing largest clients (Li Auto/Xiaomi) and mass-market customers (BYD/Leapmotor), as well as order upsurge for high-margin robotics market with new JT series. Although the full-year revenue guidance implies a drastic ASP decline caused by product mix change in both ADAS and robotics offerings, the mgmt. conveyed confidence in maintaining above-peers gross margin at around 40%, and aiming for non-GAAP net profit of RMB350m-500m in 2025, a strong beat versus consensus. Hence, we raise our earnings forecasts for 2025-26E and switch our valuation methodology from P/S to P/E multiples. By adopting 25x 2026E P/E, we lift our TP to US\$25.00. Reiterate **BUY**.

## Key Factors for Rating

- **In-line 4Q24 results with bottom line turning to profit.** Hesai delivered 222,054 LiDAR units in 4Q24, up 153.1% YoY/65.5% QoQ and breaking a new record high, mostly thanks to robust ADAS LiDAR demand from major large customers and volume contribution from robotics LiDAR new launches JT series. Despite the product revenue per unit declining sequentially to RMB3,160 amid the product mix changeover within robotics lidar lineups, total revenue rose by 28.3% YoY/33.4% QoQ to RMB702m in 4Q24, in line with prior guidance. The blended gross margin fell 8.7ppts QoQ to 39% in 4Q24, mainly due to the lower high-margin NRE revenue and mix changes (higher contribution from ADAS business whose gross margin lower than high-margin robotics business). In addition, thanks to the prepayment of c.RMB200m from a major robotaxi client that booked in other operating income, Hesai recognised GAAP net profit of RMB147m in 4Q24, and also became the first LiDAR supplier to realise full-year non-GAAP profit of RMB13.7m in 2024.
- **Upbeat guidance for LiDAR shipment in 2025.** For the full-year of 2025, the company gives the upbeat LiDAR shipment guidance of 1.2m-1.5m units (versus 1m units in prior guidance in 3Q24 results), among which 1.0m-1.3m units from ADAS LiDAR and around 200k units from robotics LiDAR with newly-released products ATX and JX series as the major contributors. For ADAS LiDARs, besides the solid demand from its two largest exclusive clients **Li Auto** (LI US/TP: US\$36.00; 2015 HK/TP: HK\$140.00, BUY) and **Xiaomi** (1810 HK/TP: HK\$70.00, BUY), we see new partnership with **BYD** (1211 HK/TP: HK\$325.00, BUY)(over 10 smart-driving models) and expanding collaboration with **Leapmotor** (9863 HK/NR)'s B-platform models set to give a strong lift for ATX's demand upside. For robotics LiDAR, we expect JT series (launched last December) will lead the growth, while non-JT series robotics LiDAR (i.e. Pandar/XT/QT) may ship 25-30k units in 2025.

## Investment Summary

Year ended 31 Dec	2023	2024	2025E	2026E	2027E
Revenue (RMB m)	1,877	2,077	3,440	5,881	8,833
Reported net profit (RMB m)	(476)	(102)	265	744	1,434
Core EPS (RMB)	(1.893)	0.107	3.258	7.246	12.815
Fully diluted EPS (RMB)	(3.734)	(0.803)	2.081	5.834	11.246
Core P/E (x)	NM	1,083.1	35.7	16.1	9.1
Fully diluted P/E (x)	NM	NM	55.9	19.9	10.3
EV/EBITDA (x)	NM	NM	39.0	14.6	7.3
P/B (x)	3.8	3.9	3.7	3.1	2.4
DPS (RMB)	0	0	0	0	0
Yield (%)	0	0	0	0	0
ROE (%)	NM	0.4	10.7	21.0	29.8

Source: Company data, BOCI Research estimates

## BOCI Research Limited

### Automotive: Components

#### LOU Jia

(852) 3988 6443

jia.lou@bocigroup.com

#### Olivia NIU

(852) 3988 6416

olivia.niu@bocigroup.com

#### Catherine SUN

(852) 3988 6422

Catherine.YM.Sun@bocigroup.com

Important disclosures and certifications are located at the back of this research report.

BOCI research is available electronically on [www.bociresearch.com](http://www.bociresearch.com).

- **Full-year guidance on net profit/margin significantly beat consensus.**  
For 2025, management guided in-line revenue of RMB3.0-3.5bn, which suggests a drastic ASP (revenue per unit) pullback to RMB2.3-2.5k versus over RMB4k in 2024, primarily caused by product mix shift in both ADAS and robotics LiDARs to reach a wider addressable market with cheaper newly-launched products (ATX and JT series). Despite the lower-than-estimated ASP, management conveyed confidence that the full-year gross margin to stay healthy at around 40%, especially for JT series. Despite its ASP dipping to several thousand RMB, management indicated its gross margin could maintain at similar-level with other robotics LiDAR products. Combined with enhanced cost disciplines and operational efficiency, the company aims to reach RMB200m-350m GAAP net profit and RMB350m-500m non-GAAP net profit for 2025, a strong beat versus consensus.

### Valuation

- To reflect the upbeat guidance for full-year LiDAR shipments, we lift our sales volume forecasts for 2025-2026E to 1.4m/2.5m units, from 1.06m/2.08m units. By breakdown, we expect the company to ship 1.2m/200k ADAS LiDAR/robotics LiDAR respectively in 2025. Specifically for the ADAS LiDARs, we project ATX/AT128/AT512 to account for 75%/25%/5% in overall ADAS LiDAR shipments this year. Given on-going product mix changeover and the escalated sales proportion of newly-launched ATX/JT series with substantial price discounts vs. existing LiDAR products, we nudge down our ASP assumptions for ADAS/Robotics LiDAR to RMB1,725/6,300, respectively in 2025.
- Over past five years, due to the product portfolio switchover towards ADAS LiDAR products and continuous price drop for ADAS LiDAR during the early penetration stage for LiDAR adoption, the company witnessed a continuous sharp decline in product revenue per unit from RMB 99k in 2020 to RMB 2.4k expected in 2025E. Yet, we render the downtrend of the product revenue per unit may see a potential turnaround around 2026-27E, essentially driven by i) strengthened ADAS LiDAR product structure with high-performance AT512 mass deliveries from 3Q24; and ii) increasing overseas higher-priced ADAS LiDAR contribution. In addition, along with the migration of L3 and above automation, we expect the number of LiDAR per vehicle may see increase, which will give a potential lift to value content per vehicle beyond 2026.
- Given the mixed adjustments in volume and ASP assumption, we largely leave our 2025E revenue forecasts intact at RMB3.4bn, while raising our 2026E revenue forecasts by 8.5% to RMB5.9bn. Coupled with stringent OPEX control, we raise our non-GAAP net profit forecasts for 2025-2026E to RMB415m/924m, from RMB199m/610m, respectively.
- In regard to the Hesai's maiden quarterly breakeven/full-year non-GAAP net profit last year and faster profit release outlook ahead, we expect the company to usher into a sustainable profitable growth stage from 2025. Hence, we switch our valuation methodology from P/S to P/E relative valuation to appropriately reflect its operational quality and profitable growth potential. By adopting 25x 2026E P/E, we raise our TP to US\$25.00 from prior TP of US\$23.00 (based on 6x 2025E P/S). If adopting same valuation metrics with direct counterparts, Hesai's current multiples of 4.2x 2025E P/S and 2.5x 2026E P/S are apparently lower than **RoboSense** (2498 HK/NR)'s (7.3x 2025E P/S and 5.2x 2026E P/S), which we deem is unreasonable after taking into account the market presence, revenue scale and profitability of Hesai against Robosense. Reiterate **BUY** on the stock.

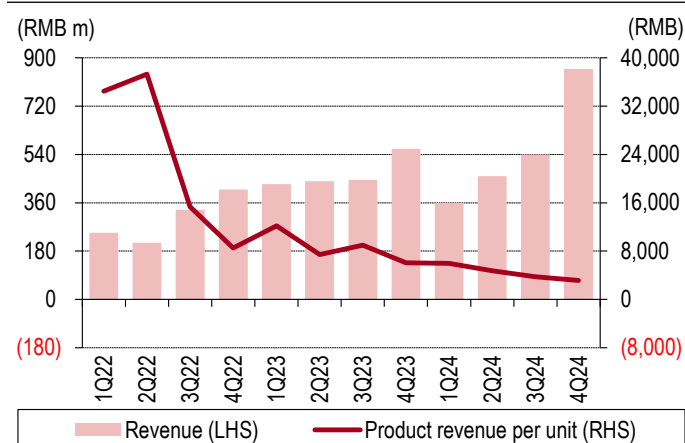
**Figure 1. Hesai's Results Summary**

(RMB m)	1Q24	2Q24	3Q24	4Q24	YoY (%)	QoQ (%)	2023	2024	YoY (%)
Revenue	359	459	539	720	28.3	33.4	1,877	2,077	10.7
Cost of sales (-)	220	252	282	439	33.1	55.6	1,216	1,193	(1.9)
<b>Gross profit / (loss)</b>	<b>139</b>	<b>207</b>	<b>258</b>	<b>281</b>	<b>21.4</b>	<b>9.1</b>	<b>661</b>	<b>885</b>	<b>33.7</b>
R&D expenses(-)	194	199	220	242	6.1	10.0	791	856	8.2
Sales and marketing expenses (-)	42	56	46	49	(1.1)	6.2	149	193	29.7
General and administrative expenses (-)	69	66	77	105	(20.9)	37.8	320	317	(1.0)
Other operating income, net	27	18	8	222	1,190.1	2,593.8	27	276	941.1
<b>Loss from operations</b>	<b>(138)</b>	<b>(96)</b>	<b>(77)</b>	<b>107</b>	<b>NA</b>	<b>NA</b>	<b>(572)</b>	<b>(205)</b>	<b>NA</b>
Interest income	33	24	26	22	(26.9)	(11.8)	100	104	4.6
Interest expense	2	3	4	4	338.2	2.6	(3)	(13)	NA
Foreign exchange (losses)/gains, net	1	4	(14)	23	(418.8)	NA	(0)	15	NA
Share of loss in equity method investment	(0)	(0)	0	(0)	NA	(166.7)	(0)	(0)	NA
Others, net	(0)	0	(1)	(1)	NA	NA	0	(2)	(7,382.4)
Other income/(expenses)	32	24	7	41	81.0	502.6	96	104	7.7
<b>Loss before income tax expense</b>	<b>(107)</b>	<b>(72)</b>	<b>(70)</b>	<b>148</b>	<b>NA</b>	<b>NA</b>	<b>(475)</b>	<b>(101)</b>	<b>NA</b>
Income tax expense (-)	0	0	(0)	1	(20.5)	NA	1	1	71.7
<b>Net loss</b>	<b>(107)</b>	<b>(72)</b>	<b>(70)</b>	<b>147</b>	<b>NA</b>	<b>NA</b>	<b>(476)</b>	<b>(102)</b>	<b>NA</b>
<b>Net Income/(loss) attributable to ordinary shareholders of the Company</b>	<b>(107)</b>	<b>(72)</b>	<b>(70)</b>	<b>147</b>	<b>NA</b>	<b>NA</b>	<b>(476)</b>	<b>(102)</b>	<b>NA</b>

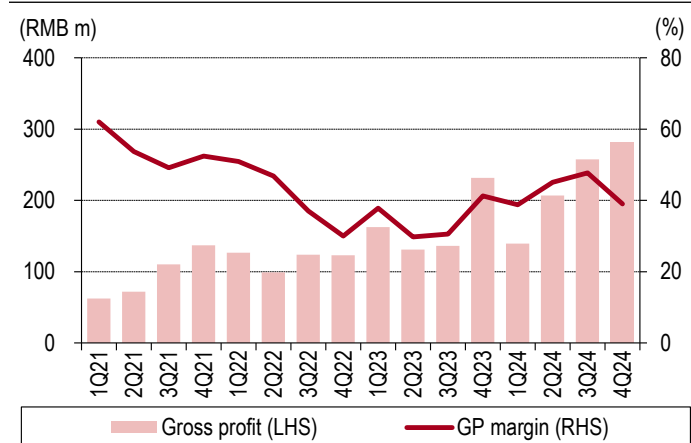
  

Key ratio (%)					YoY (ppts)	QoQ (ppts)			
Gross margin	38.8	45.1	47.7	39.0	(2.2)	(8.7)	35.2	42.6	7.4
R&D ratio	54.1	43.3	40.8	33.7	(7.0)	(7.2)	42.1	41.2	(0.9)
Sell exp ratio	11.7	12.1	8.6	6.8	(2.0)	(1.7)	12.2	16.2	3.9
G&A ratio	19.1	14.4	14.2	14.7	(9.1)	0.5	17.1	15.3	(1.8)
Operating margin	(38.6)	(20.9)	(14.3)	14.8	43.8	29.1	(30.5)	(9.9)	20.6
Net margin (GAAP)	(29.8)	(15.7)	(13.0)	20.4	45.5	33.5	(25.4)	(4.9)	20.4

Source: Company data, BOCI Research

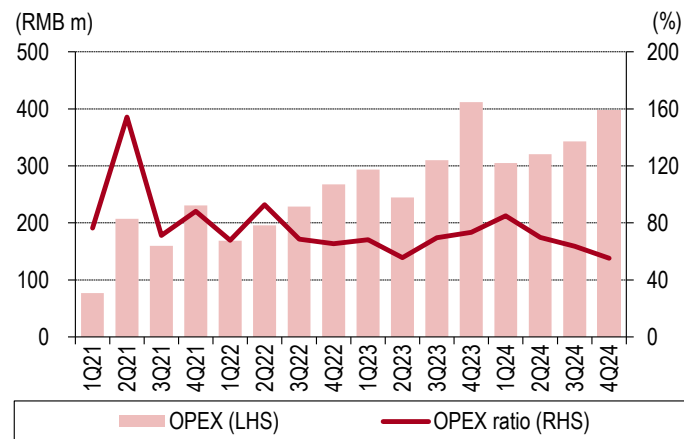
**Figure 2. Quarterly Revenue and Product Revenue per Unit**


Source: Company data, BOCI Research

**Figure 3. Quarterly Gross Profit and Gross Margin**


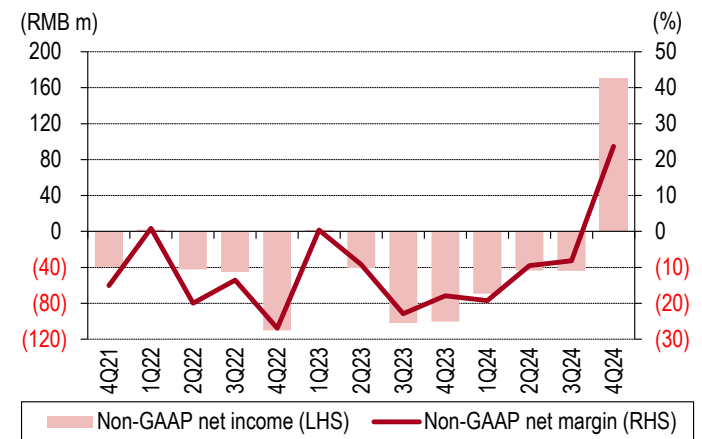
Source: Company data, BOCI Research

Figure 4. Quarterly OPEX and OPEX Ratio



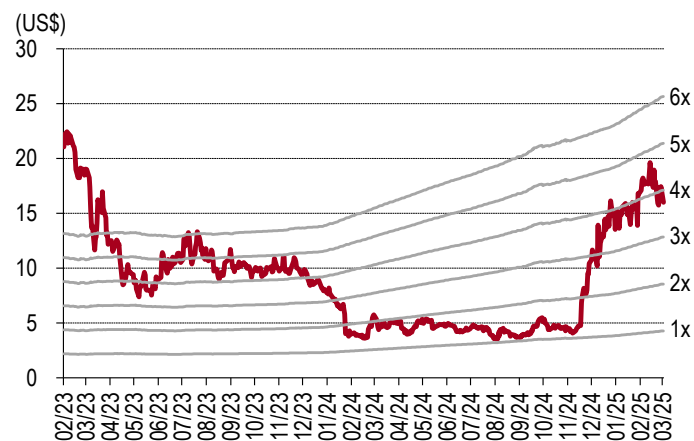
Source: Company data, BOCI Research

Figure 5. Quarterly Non-GAAP Net Income and Non-GAAP Net Margin



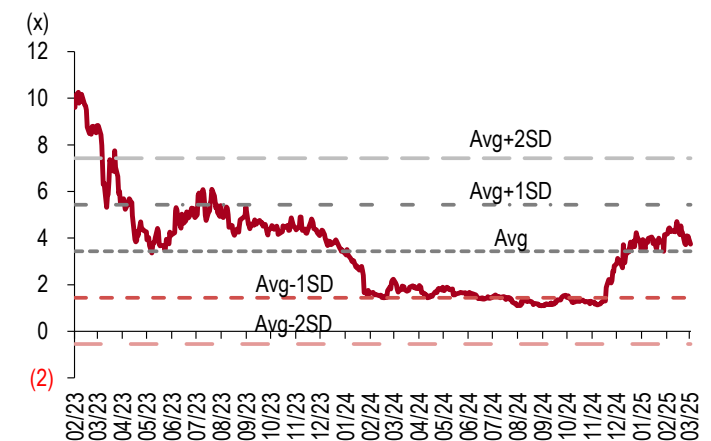
Source: Company data, BOCI Research

Figure 6. Hesai's P/S Band



Source: Company data, Wind Database, BOCI Research

Figure 7. Hesai's P/S Range



Source: Company data, Wind Database, BOCI Research

**Income Statement (RMB m)**

Year ended 31 Dec	2023	2024	2025E	2026E	2027E
<b>Revenue</b>	<b>1,877</b>	<b>2,077</b>	<b>3,440</b>	<b>5,881</b>	<b>8,833</b>
Cost of sales	(1,216)	(1,193)	(2,031)	(3,723)	(5,695)
Operating exp.	(1,233)	(1,089)	(1,180)	(1,390)	(1,620)
<b>EBITDA</b>	<b>(485)</b>	<b>(101)</b>	<b>360</b>	<b>933</b>	<b>1,708</b>
Depr & amortisation	86	104	131	164	189
<b>Operating profit (EBIT)</b>	<b>(572)</b>	<b>(205)</b>	<b>229</b>	<b>769</b>	<b>1,519</b>
Net interest inc./(exp.)	97	92	84	106	168
Other gains/(losses)	(0)	12	0	0	0
<b>Pre-tax profit</b>	<b>(475)</b>	<b>(101)</b>	<b>312</b>	<b>875</b>	<b>1,687</b>
Tax on profit	(1)	(1)	(47)	(131)	(253)
Min. int./others	0	0	0	0	0
<b>Net profit</b>	<b>(476)</b>	<b>(102)</b>	<b>265</b>	<b>744</b>	<b>1,434</b>
<b>Core net profit</b>	<b>(241)</b>	<b>14</b>	<b>415</b>	<b>924</b>	<b>1,634</b>
EPS (RMB)	(3.734)	(0.803)	2.081	5.834	11.246
Core EPS (RMB)	(1.893)	0.107	3.258	7.246	12.815
DPS (RMB)	0	0	0	0	0
Revenue YoY %	56.1	10.7	65.6	71.0	50.2
EBIT YoY %	NM	NM	NM	236.3	97.6
EBITDA YoY %	NM	NM	NM	159.4	83.1
Core net profit YoY%	NM	NM	2,933.7	122.4	76.9
Fully diluted EPS YoY%	NM	NM	NM	180.3	92.8

Source: Company data, BOCI Research estimates

**Cash-flow Statement (RMB m)**

Year ended 31 Dec	2023	2024	2025E	2026E	2027E
<b>Pre-tax profit</b>	<b>(475)</b>	<b>(101)</b>	312	875	1,687
Depr. & amortisation	86	104	131	164	189
Net interest expenses	(97)	(92)	(84)	(106)	(168)
Chg. in working capital	147	217	87	(65)	(65)
Tax paid	0	0	0	0	0
Other operating activ's	396	(17)	(47)	(131)	(253)
<b>CF from operations</b>	<b>57</b>	<b>111</b>	<b>400</b>	<b>736</b>	<b>1,390</b>
CAPEX	(415)	(430)	(436)	(438)	(440)
Decr./(incr.) in invest.	0	0	0	0	0
Other investing activ's	(646)	9	0	0	0
<b>CF from investing</b>	<b>(1,060)</b>	<b>(421)</b>	<b>(436)</b>	<b>(438)</b>	<b>(440)</b>
Net incr. in equity	1,243	-	-	-	-
Net incr. in debt	377	(12)	(100)	258	(232)
Dividends paid	(40)	92	84	106	168
Other financing activ's	11	(169)	0	0	0
<b>CF from financing</b>	<b>1,590</b>	<b>(89)</b>	<b>(16)</b>	<b>364</b>	<b>(64)</b>
Change in cash	587	(400)	(53)	662	886
Cash at start of year	913	1,555	1,155	1,102	1,764
Free cash flow to firm	(1,003)	(310)	(36)	298	950
Free cash flow to equity	(627)	(322)	(136)	556	718

Source: Company data, BOCI Research estimates

**Balance Sheet (RMB m)**

As at 31 Dec	2023	2024	2025E	2026E	2027E
Cash & cash equiv.	3,144	2,745	2,692	3,354	4,239
Receivables	530	519	764	1,176	1,767
Inventories	496	477	677	1,064	1,266
Other current assets	228	20	20	20	20
<b>Total current assets</b>	<b>4,398</b>	<b>3,761</b>	<b>4,153</b>	<b>5,614</b>	<b>7,292</b>
Fixed assets	872	1,138	1,383	1,597	1,788
Intangible assets	362	422	482	542	602
Other long term assets	32	32	32	32	32
<b>Total long-term assets</b>	<b>1,265</b>	<b>1,591</b>	<b>1,896</b>	<b>2,170</b>	<b>2,421</b>
<b>Total assets</b>	<b>5,663</b>	<b>5,352</b>	<b>6,049</b>	<b>7,784</b>	<b>9,713</b>
Creditors	617	596	1,128	1,861	2,589
Short-term debt	112	100	0	258	26
Other current liabs.	607	600	600	600	600
<b>Total current liabs.</b>	<b>1,335</b>	<b>1,296</b>	<b>1,728</b>	<b>2,719</b>	<b>3,214</b>
Long-term borrowings	286	286	286	286	286
Other long-term liabs.	179	10	10	10	10
Share capital	7,424	7,424	7,424	7,424	7,424
Reserves/others	(3,562)	(3,664)	(3,399)	(2,655)	(1,221)
<b>Shareholders' equity</b>	<b>3,862</b>	<b>3,760</b>	<b>4,025</b>	<b>4,769</b>	<b>6,203</b>
M.I./Pref. shr/Oth	0	0	0	0	0
<b>Total liabs. &amp; equity</b>	<b>5,663</b>	<b>5,352</b>	<b>6,049</b>	<b>7,784</b>	<b>9,713</b>
Per share (RMB)					
Book value	30.4	29.5	31.6	37.4	48.7
Tangible assets	27.6	26.2	27.8	33.2	43.9
Net debt/(cash)	Net cash	Net cash	Net cash	Net cash	Net cash

Source: Company data, BOCI Research estimates

**Key Ratios**

Year ended 31 Dec	2023	2024	2025E	2026E	2027E
<b>Profitability (%)</b>					
EBITDA margin	NM	NM	10.5	15.9	19.3
EBIT margin	NM	NM	6.6	13.1	17.2
Pre-tax margin	NM	NM	9.1	14.9	19.1
Net profit margin	NM	NM	7.7	12.6	16.2
<b>Liquidity (x)</b>					
Current ratio	3.3	2.9	2.4	2.1	2.3
Interest coverage	NM	NM	NM	NM	NM
Net debt to equity (%)	NM	NM	NM	NM	NM
Quick ratio	2.9	2.5	2.0	1.7	1.9
<b>Valuation (x)</b>					
P/E	NM	NM	55.9	19.9	10.3
Core P/E	NM	1,083.1	35.7	16.1	9.1
Core P/E @ target price	NM	1,691.3	55.8	25.1	14.2
P/B	3.8	3.9	3.7	3.1	2.4
P/FCF	NM	NM	NM	49.8	15.6
EV/EBITDA	NM	NM	39.0	14.6	7.3
<b>Activity ratios</b>					
Inventory days	171.6	148.9	103.7	85.3	74.6
Accounts receivables days	99.2	92.2	68.1	60.2	60.8
Accounts payables days	112.6	106.6	91.5	92.8	91.9
<b>Returns (%)</b>					
Dividend payout ratios	NM	NM	0	0	0
Return on equity	NM	0.4	10.7	21.0	29.8
Return on assets	NM	NM	3.4	11.1	17.4
Return on capital employed	NM	NM	7.4	18.2	28.5

Source: Company data, BOCI Research estimates



## Certifications and Important Disclosures

All views expressed in this material reflect the personal views of each analyst about any and all of the subject securities or issuer(s). In addition, no part of the analyst's compensation was, is, or will be directly or indirectly related to the specific recommendations or views expressed in this material.

Except as disclosed herein, each analyst declares that (i) neither he/she nor his/her associate has any financial interests in relation to the issuer(s) reviewed by the analyst, and (ii) neither he/she nor his/her associate serves as an officer of the issuer(s) reviewed by the analyst. For the purposes of these certifications, the term "associate" includes members of the analyst's household as defined by the Financial Industry Regulatory Authority ("FINRA").

Accordingly, none of the issuer(s) reviewed or any third party has provided or agreed to provide any compensation or other benefits in connection with this material to any of the analysts, BOCI Research Limited and BOC International Holdings Limited and any of their respective subsidiaries and affiliates (collectively, the "BOCI Group"). Analysts receive compensation based upon the overall revenue and profitability of the BOCI Group, including revenues derived from its investment banking business.

Member companies of the BOCI Group confirm that they, whether individually or as a group:

- (i) do not own financial interests in an aggregate amount equal to or more than 1% of the market capitalization in any of the issuer(s) reviewed;
- (ii) certain non-US member companies of BOCI Group are involved in making a market in the securities of BYD Co Ltd, Xiaomi Corp, Li Auto Inc.-H
- (iii) do not have any individual employed by or associated with any member companies of BOCI Group serving as an officer of any of the issuer(s) reviewed;
- (iv) have not managed or co-managed a public offering of the issuer(s) reviewed within the preceding 12 months;
- (v) have not received compensation or a mandate for investment banking services rendered from the issuer(s) reviewed within the preceding 12 months, or
- (vi) do not expect to receive nor intend to seek compensation for investment banking services from the issuer(s) reviewed in the next three months.

This disclosure statement is made pursuant to paragraph 16 of the "Code of Conduct for Persons Licensed by or Registered with the Hong Kong Securities and Futures Commission" and is updated as of 10 March 2025. Waiver has been obtained by BOC International Holdings Limited from the Securities and Futures Commission of Hong Kong to disclose any interests the Bank of China Limited and its subsidiaries and affiliates may have in this material.

### BOCI Rating Definitions :

BUY : Stock with expected total absolute return (including dividends) > 10% over the next twelve months

HOLD : Stock with expected total absolute return (including dividends) between -10% to +10% over the next twelve months

SELL : Stock with expected total absolute return (including dividends) < -10% over the next twelve months

OVERWEIGHT : Sector expected to outperform the market benchmark over the next twelve months

NEUTRAL : Sector expected to perform in-line with market benchmark over the next twelve months

UNDERWEIGHT : Sector expected to underperform the market benchmark over the next twelve months

This material has been prepared and issued by BOCI Research Limited ("BOCI Research"), a company incorporated in Hong Kong and regulated by the Securities and Futures Commission in Hong Kong. The material is intended for general distribution to professional, accredited and institutional investors only and is being furnished on a confidential basis and solely for informational purposes. This material, its contents or any copy thereof may not be published, in whole or in part, for any purpose or altered, reproduced, redistributed or disseminated, directly or indirectly, to any other person, including the press or the media, without the prior written consent of BOC International Holdings Limited and any of their respective subsidiaries and affiliates (collectively, the "BOCI Group"). All trademarks, service marks and logos used or referenced herein are beneficially owned by one or more members of the BOCI Group.

The distribution of this material in some jurisdictions may be restricted by law or regulation. This material is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use, would be contrary to law or subject BOCI Research and the BOCI Group to any registration or licensing requirement within such jurisdiction. Persons with possession of this material should inform themselves about and observe any such restrictions.

The information presented herein does not take into account the specific investment objectives, financial situation or particular needs of any particular investor and shall not be construed as investment, legal, accounting or tax advice, nor be deemed a representation that any investment or strategy is suitable or appropriate. The information contained herein does not constitute or form part of any offer for sale or invitation, or a solicitation or an offer to subscribe or purchase any securities or other financial instruments, and should not be used to form the basis of or be relied upon in connection with any contract or commitment whatsoever. The BOCI Group has not taken any steps to ensure that the securities referred to in this material are suitable for any particular investor, and the BOCI Group will not treat recipients as its customers by virtue of their having received this material. Investors should make their own independent judgment or consult independent financial or investment advisers before making any investment decision, and in determining the suitability or assessing the investment risks of any securities or other financial instruments.

Although information, opinions and estimates presented herein have been obtained or derived from sources believed by BOCI Research to be reliable, the BOCI Group nor its respective directors, officers, employees or agents have not independently verified the information contained herein, except to the extent required by applicable law and regulation. The accuracy and completeness of any information, opinions and estimates expressed cannot be guaranteed, and may reflect a judgement as at the date of publication by BOCI Research and may be based on a number of assumptions, which may not prove valid and are subject to change at any time. Accordingly, the BOCI Group shall not have any liability whatsoever (in negligence or otherwise) for any loss arising from any use of this material or its contents or otherwise except to the extent required by applicable law or regulation. As such, the information, opinions and estimates expressed herein are provided on an "as is" basis, and no representation or warranty, expressed or implied, is made as to the fairness, accuracy or completeness of such information, opinions and estimates. In addition, the BOCI Group may have issued other materials that are inconsistent with, or reached different conclusions or opinions from, those presented in this material. For the avoidance of doubt, views expressed in this material do not necessarily represent those of the BOCI Group. Each published material reflects the different assumptions, analytical methods and views of the analyst who prepared them.

Past performance should not be taken as an indication or guarantee of future performance, and no representation or warranty, expressed or implied, is made regarding future performance. The price, value of and income from any of the securities or financial instruments can fall as well as rise and may not be readily realisable. It also may prove difficult to obtain reliable information about the value, or risks, to which such an investment is exposed.

This material may provide the addresses of, or contain hyperlinks to, various websites. To the extent that this refers to material outside the BOCI Group's websites, the BOCI Group has not reviewed the linked sites and takes no responsibility for such content. Such addresses or hyperlinks (including addresses or hyperlinks to the BOCI Group's own website material) are provided solely for convenience and information, and the content of the linked sites does not in any way form part of this material. Accessing such websites is at your own risk.

Investors should refer to the respective credit rating agencies (including Moody's, S&P or Fitch) for their rating definitions, methodology in evaluating the creditworthiness of the issuers and how the ratings are assigned. Rating agencies may change their ratings upon short notice. A change in ratings may affect the price of securities outstanding. Investors investing in fixed income financial instruments (such as bonds) denominated in non-local currency should be aware of the risk of exchange rate fluctuations, which may cause a loss of principal, and that there may not be a secondary market for such fixed income financial instruments.

One or more members of the BOCI Group may, to the extent permitted by applicable law or regulation, participate or invest in financing transactions with the issuer(s) of the securities referred to in this material, perform services for or solicit business from such issuer(s), and/or have a position or effect transactions in the securities or other financial instruments of such issuer(s). One or more members of the BOCI Group may, to the extent permitted by applicable law or regulation, act upon or use the information or opinions presented herein, or the research or analysis on which they are based, before the material is published. One or more members of the BOCI Group and the analyst(s) preparing this material (each an "analyst" and collectively the "analysts") may, to the extent permitted by applicable law or regulation, have financial interests in or business relationships with any or all of the companies mentioned in this material (each, a "listed issuer" and, collectively, the "listed issuers"). See Certifications above for additional information.

This material may be distributed in Hong Kong by BOCI Research and BOCI Securities Limited ("BOCI Securities"); in Singapore, by BOC International (Singapore) Pte Ltd. ("BOCI Singapore") and, in the United Kingdom, by Bank of China International (UK) Limited.

Without prejudice to any of the foregoing disclaimers, to the extent that the reader is an accredited or expert investor as defined in Regulation 2 of the Financial Advisers Regulations ("FAR") of the Financial Advisers Act (Cap. 110) of Singapore ("FAA"), BOCI Singapore is in any event exempted (i) by Regulation 34 of the FAR from the requirement to have a reasonable basis for making any recommendation as mandated under Section 27 of the FAA, and (ii) by Regulation 35 of the FAR from the requirements in Section 36 of the FAA mandating disclosure of any interests in securities mentioned in this material, or in their acquisition or disposal, that it or its associated or connected persons may have. The recipient of the analysis or material should contact BOCI Singapore, if they have any queries as to the material/analysis.

BOCI Research is not a registered broker-dealer in the United States. Where this material is distributed by BOCI Research in the United States, it shall only be provided to "major U.S. institutional investors" in reliance on the exemption from registration provided by Rule 15a-6 ("SEC Rule 15a-6") of the U.S. Securities Exchange Act of 1934, as amended ("Exchange Act"). Any securities referred to herein have not been registered with, recommended by or approved by any U.S. federal or state, or any non-U.S. securities commission or regulatory authority, nor has any such authority or commission passed upon the accuracy or adequacy of this material. Any securities referred to herein have not been and are not expected to be registered under the U.S. Securities Act of 1933, as amended ("Securities Act"), or any state or other securities laws or the laws of any non-U.S. jurisdiction. The BOCI Group does not make any representation as to the availability of Rule 144A or any other exemption under the Securities Act for the sale, resale, pledge or transfer of any securities referred to in the material. Any U.S. person (as defined under the Exchange Act or the U.S. Internal Revenue Code of 1986, as amended) who is a recipient of this material wishing to effect any transaction to buy or sell securities or related financial instruments may do so solely pursuant to the provisions of SEC Rule 15a-6.

In the United Kingdom, this material is not a prospectus and has not been approved under section 21 of the Financial Services and Markets Act 2000 (the "FSMA"). This material may only be passed on to persons in or outside the United Kingdom in accordance with the Financial Services and Markets Act 2000 (Financial Promotions) Order 2005, specifically, Eligible Counterparties and Professional Clients (to include Elective Professional Clients). The transmission of this material to any other persons must not contravene the FSMA and other applicable UK securities laws and regulations. All applicable provisions of the FSMA must be complied with respect to the securities referred to in this material in, from, or otherwise involving the United Kingdom.

Copyright 2025 BOCI Research Limited, BOC International Holdings Limited and its subsidiaries and affiliates. All rights reserved.

20/F, Bank of China Tower  
1 Garden Road  
Hong Kong  
Tel: (852) 3988 6000  
Fax: (852) 2147 9513

**Toll free numbers to Hong Kong:**

**China North:** 10800 8521065  
**China South:** 10800 1521065  
**Singapore:** 800 852 3392

**BOCI Securities Limited**

20/F, Bank of China Tower  
1 Garden Road  
Hong Kong  
Tel: (852) 3988 6000  
Fax: (852) 2147 9513

**Bank of China International (UK) Limited**

2/F, 1 Lothbury  
London EC2R 7DB  
United Kingdom  
Tel: (4420) 3651 8888  
Fax: (4420) 3651 8877

**BOC International (Singapore) Pte. Ltd.**

**Reg. No. 199303046Z**  
4 Battery Road  
30/F Bank of China Building  
Singapore 049908  
Tel: (65) 6671 8686 / (65) 6671 8687

**BOC International (China) Co., Ltd**

Room 2308  
Bank of China Tower  
No. 200 Yincheng Road (M)  
Pudong, Shanghai 200120  
China  
Tel: (8621) 6881 1163  
Fax: (8621) 6881 1295

**BOC International Holdings Ltd  
Representative Office**

8/F, No.110 Xidan North Street  
Xicheng District  
Beijing 100032, China  
Tel: (8610) 8326 2000  
Fax: (8610) 8326 2290